

# Back Injury Prevention

## Lesson Guide

### #9



# OBJECTIVES: *Upon completion of this topic you will be able to:*

- Identify various causes of back problems.
- Identify different ways of preventing back injuries.
- Define safe lifting rules.
- Identify emergency first aid for back injuries.

# Background

# The Back Supports the Whole Body

- Spine consists of 33 bones
  - Upper 24 separated by discs acting as cushions
- Spinal cord is half-inch cable of nerves
  - Controls all activity below the neck
- Thirty-one branches of nerves extend from spinal cord
  - Sends information to the brain, and orders to the muscles



# Causes of Back Problems

- Overweight
  - Can put extra stress on muscles
- Out of shape
  - Weak muscles can't do supporting job
- Poor posture
  - Puts unnecessary pressure and curvature on the back

# Common Back Problems

- Muscle fatigue and strain
- Fractured vertebra
  - May injure spinal cord and cause paralysis
- Ruptured or “slipped” disc
  - Presses on spinal nerves and causes pain in back and legs
- Diseases
  - Arthritis
  - Other infections

Slipped  
Disc



# Preventing Back Injuries

# Exercise and Posture

- Exercises to strengthen back muscles
  - Pelvic tilt
  - Knees-to-chest
  - Bent-leg sit-ups
- Exercises to help posture
  - Sit with knees higher than hips. Lift feet slightly while keeping back against backrest
  - Stand tall--head high, chin in, chest out. Lean forward, knees slightly bent

# More Self-Help

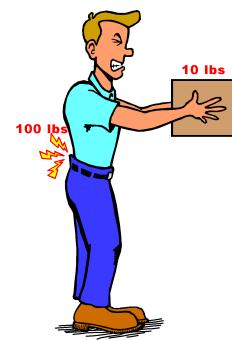
- Sleep on firm mattress
  - Lie on side with hips and knees bent
  - Avoid sleeping on stomach
- Adjust desk chair to properly support back
- Stretch frequently & readjust posture to relieve fatigue

# Safe Lifting Rules

- Stand close to the object--have a firm footing
- Keep the back straight while bending the knees
- Grasp the object firmly
- Lift with the leg muscles
  - Slowly straighten legs and bring back to vertical position

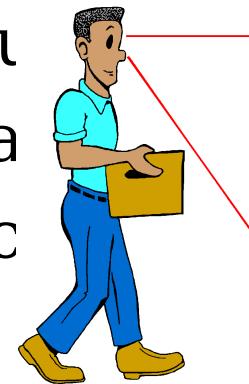
# Safe Lifting Rules

- Hold object firmly close to the body while moving
- Use same motions to set object down
- Avoid sudden, jerky motions
- Turn with feet instead of back
- Do not extend arms too far away from the body to set object down



# Use Your Head Before You Use Your Back

- Examine an object for best way to hold it
- Check for sharp edges, grease, moisture
- Clear path of obstructions & trip hazards
- Know where and how to deposit object
- If in doubt--get help!



# Special Precautions

- Overhead Lifting
  - Keep firm footing
  - Get a ladder or platform
  - Get help!
- Heavy objects
  - Use more than one person
  - Break down object into smaller loads



# Back-Saving Tips

# On-the-Job

- Keep knees bent to flatten the back
- Bend knees deeply to relieve strain--when working low
- Plant feet firmly for all lifting jobs
- Dismount from platforms/vehicles carefully
  - Lower yourself slowly
  - Don't jump!

# On-the-Job

- Don't try to catch falling objects
- When driving
  - Keep seat forward
  - Keep knees bent & higher than hips
- Use moving & lifting tools
  - Hand trucks
  - Hoists
  - Dollies



# What About Home?

- Choose lightweight tools with long handles
- Stand near work instead of reaching
- For shoveling:
  - Keep hands separated for good leverage
  - Lift with knees--back straight
  - Don't twist
- Use work saving devices
- Stop and stretch often



# Emergency First Aid for Back Injuries

# Spinal Fractures

- Can be caused by a severe blow or twist to person's head, neck, or back
- Possible fracture symptoms may include:
  - Severe pain across chest, abdomen, or down legs
  - Muscle spasms
  - Weakness or numbness below the area of injury

# What do I do?

- Call MEDICAL EMERGENCY
- DO NOT move the victim
- If movement is unavoidable, get helpers to keep head, neck and back straight
- Do not let victim attempt stand, or walk



# What about First Aid for a Strain or Sprain?

- Call for medical help
- Assist the victim in lying flat or assuming a position of least pain
- Avoid unnecessary movement until help arrives

# Review and Summary

